

REMARKS

The Office Action dated May 24, 2004 has been received and carefully noted. The above following remarks are submitted as a full and complete response thereto. Claims 1-6 are pending in the present application. No new matter is presented and no new issues are raised which require further consideration and/or search. Therefore, claims 1-6 are respectfully submitted for consideration.

Claims 1-6 are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art in pages 1-3 and Fig. 1-4 of the specification. The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in amended independent claims 1 and 5.

Claim 1, upon which claims 2-4 and 6 depend, recites a method for controlling a phase locked loop during change of synchronization source, wherein a fixed setting value of the phase difference is originally set for the phase locked loop. The method comprises the step of changing a synchronization signal from a first synchronization to a second synchronization signal. The method also includes the steps of measuring a phase difference between the second synchronization signal and a signal formed in a phase lock's oscillator and comparing the measured phase difference to a predetermined limit value. The method further includes the steps when the comparing step shows that the measured phase difference is greater than the predetermined limit value, of changing the phase difference between the second synchronization signal and the signal formed from the phase lock's oscillator; repeating the measuring and comparing steps until the

measured phase difference is less than or equal to said predetermined limit value; and when the comparing step shows that the measured phase difference is less than or equal to the predetermined limit value, setting the measured phase difference as a new setting value for the phase difference for use in the normal adjustment function of the phase locked loop instead of the fixed setting value.

Independent claim 5 recites a digital phase lock arrangement, comprising selection components configured to select a desired synchronization source from a set of at least two different synchronization sources. The arrangement also includes a phase comparator having a first and a second input, configured to generate an output signal dependent on a phase difference between signals supplied to the inputs. The arrangement further includes controllers configured to form a control word in response to an output signal which is dependent on the phase difference; and an oscillator, which is controlled with the aid of the control word, the controllers comprising setting components configured to set a measured phase difference as a new setting value for a normal adjustment function of the phase lock arrangement instead of a fixed setting value of the phase difference originally set for the arrangement.

As will be discussed below, the admitted prior art fails to disclose or suggest the elements of any of the presently pending claims.

The prior art in the specification shows a typical phase lock structure in Fig. 1. Page 1, paragraph 5. The phase lock structure includes a phase difference meter that compares the phase difference between a reference signal P1 and a signal P2 formed by

dividing from an oscillator signal P3 and calculates how many pulses of the oscillator signal P3 can be accommodated between the rising or falling edges of the signals to be compared. Page 1, paragraph 5. The structure also includes a microcomputer that forms a control word for a D/A converter, wherein the control word is obtained from results of measurements performed by the phase difference meter. Page 2, paragraph 1. The D/A converter converts the control word from digital form into analog form and supplies the converted control word to a crystal oscillator which generates the oscillator signal P3. Page 2, paragraph 2. The structure also includes a divider 18 which receives signal P3 from a cut-off circuit of the oscillator signal. Page 2, paragraph 3. If there is a reason to change synchronization source, the microcomputer, with signal CUTC, prevents the oscillator signal from having access to the divider forming signal P2 at time T. Page 2, paragraph 3. By performing a suitable number of signal cut-off operations and reading the value of the phase difference meter after each cut-off, it is possible to set the phase difference of signals P1 and P2 with an accuracy of time constant T at the average SETM of the phase meter. Page 2, paragraph 3.

Fig. 2 of the admitted prior art illustrates a situation where a cut-off operation taking place during a change of synchronization signal has allocated the phase of signal P2 at a desired value with a precision of time constant T. Page 2, paragraph 5. Fig. 3 illustrates a time slot of the calculation to be performed in the phase difference meter. Page 3, paragraph 1.

Fig. 4 illustrates a flow chart of a method for changing the synchronization source in a phase lock. Page 3, paragraph 3. According to figure 4, when a decision on the exchange of synchronization is desired, a change of synchronization signal occurs at step 41 or else the phase difference is maintained at the setting value SETM. After the change of synchronization signal, the phase difference meter measures the phase difference SETC and compares the value with the phase difference setting value SETM. If the difference is higher than the value of time constant T, an oscillator signal cut-off operation is performed by giving a CUTC command. If the difference is lower than or equal to the value of time constant T, then the phase difference is adjusted to the setting value SETM. When the setting value is reached, the phase difference is maintained at its setting value.

Applicant respectfully submits that the admitted prior art does not teach or suggest the combination of elements clearly recited in the claimed invention. Claim 1, in part, recites the step of when the comparing step shows that the measured phase difference is greater than the predetermined limit value, changing the phase difference between the second synchronization signal and the signal formed from the phase lock's oscillator. Applicant submits that there is simply no teaching or suggestion in the admitted prior art of changing the phase difference between the second synchronization signal and the signal formed from the phase lock's oscillator, when the comparing step shows the measured phase difference is greater than the predetermined limit value as recited in claim 1. Instead the admitted prior art teaches that if the difference is higher than the

value of time constant T , an oscillator signal cut-off operation is performed by giving a CUTC command.

Furthermore, claim 1, in part, recites the step of when the comparing step shows that the measured phase difference is less than or equal to the predetermined limit value, setting the measured phase difference as a new setting value for the phase difference for use in the normal adjustment function of the phase locked loop instead of the fixed setting value. Claim 5, in part, recites controllers comprising setting components configured to set a measured phase difference as a new setting value for a normal adjustment function of the phase lock arrangement instead of a fixed setting value of the phase difference originally set for the arrangement. The Office Action admits that the admitted prior art does not disclose controllers comprising setting components configured to set a measured phase difference as a new setting value for a normal adjustment function of the phase lock arrangement instead of a fixed setting value of the phase difference originally set for the arrangement. However, according to the Office Action the admitted prior art discloses that if a change of synchronization signal is not desired, the phase lock continues to maintains the phase difference at its setting value SETM. Therefore, according to the Office Action, it would have been obvious to set a new setting value for a normal adjustment function if a change of synchronization signal is desired instead of the fixed setting value of the phase difference originally set for the arrangement. Applicant submits that the admitted prior art teaches away from setting a new setting value for a normal adjustment function if a change of synchronization signal

is desired instead of the fixed setting value of the phase difference originally set for the arrangement as suggested by the Office Action. Instead, the admitted prior art specifically teaches that if a change of synchronization signal is desired, and if the difference is lower than or equal to the value of time constant T, then the phase difference is adjusted to the setting value SETM. Applicant submits that there is simply no teaching or suggestion in the admitted prior art of setting a new setting value for a normal adjustment function if a change of synchronization signal is desired instead of the fixed setting value of the phase difference originally set for the arrangement.

MPEP §2143.03 instructs that “[t]o establish primi facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974).” Applicant respectfully submits that there is simply no incentive or motivation in the admitted prior art to set a new setting value for a normal adjustment function if a change of synchronization signal is desired instead of the fixed setting value of the phase difference originally set for the arrangement as recited in claims 1 and 5. Furthermore, MPEP 2143.01 instructs that “[a]lthough a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.’” Applicant respectfully submits that the admitted prior art simply does not provide such a suggestion or motivation. Applicant submits that the only motivation to substitute the setting value SETM with the new setting value is found in Applicants’ own application. MPEP 2141, under the heading “Basic Consideration Which Apply to Obviousness

Rejections,” points out that “the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.” (See also Hodosh v. Block Drug Co., Inc. 786 F.2d 1136, 229 USPQ 182 (Fed. Cir. 1986).) The Federal Circuit has clearly held that “the motivation to combine references cannot come from the invention itself.” Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 21 F.3d 1068, 30 USPQ 2d 1377 (Fed. Cir. 1993).


In view of MPEP 2144.03, absent any teaching or suggestion in the prior art to adapt the teachings of admitted prior art to meet the claimed invention, and because the rejection lacks evidence of a teaching or suggestion that the features would have been obvious to one of ordinary skill, the rejections under 35 U.S.C. §103(a) are improper. Therefore, Applicant respectfully traverses the rejection under 35 U.S.C. §103(a) and asserts that the rejection should be withdrawn because the admitted prior art does not teach each feature of independent claims 1 and 5 and hence, dependent claims 2-4, and 6, respectively.

As noted previously, claims 1-6 recite subject matter which is neither disclosed nor suggested in the admitted prior art cited in the Office Action. It is therefore respectfully requested that claims 1-6 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant’s undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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